

LISTING OF CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently Amended) An image forming apparatus comprising:

an image carrier;

developing means for developing a latent image formed on said image carrier by depositing a toner to thereby form a corresponding toner image;

image transferring means for forming an electric field between said image carrier and a subject body of image transfer to thereby transfer the toner image from said image carrier to said subject body;

cleaning means using a bladeless system for removing a residual toner left on said image carrier after image transfer without scraping off said residual toner with a blade member; and

a flexible member disposed upstream of the cleaning means and affixed at one edge portion, the flexible member and having a flat surface formed with including a grooved portion having a plurality of grooves, the flat surface of the flexible member including the grooved portion extending from the affixed one edge portion to a free at the other edge portion, said plurality of grooves each extending over an image forming range of a surface of said image carrier perpendicularly to a direction in which said surface of said image carrier is movable;

wherein said flexible member is positioned such that at least said grooved portion of the flat surface contacts the surface of said image carrier with said flexible member being deformed.

2. (Original) The apparatus as claimed in claim 1, wherein said flexible member comprises a sheet member formed of polyethylene terephthalate.

3. (Previously Presented) An image forming apparatus comprising:

an image carrier;

developing means for developing a latent image formed on said image carrier by depositing a toner to thereby form a corresponding toner image;

image transferring means for forming an electric field between said image carrier and a subject body of image transfer to thereby transfer the toner image from said image carrier to said subject body;

cleaning means using a bladeless system for removing a residual toner left on said image carrier after image transfer without scraping off said residual toner with a blade member; and

a flexible member affixed at one edge portion and having a flat surface formed with a plurality of grooves at the other edge portion, said plurality of grooves each extending over an image forming range of a surface of said image carrier perpendicularly to a direction in which said surface of said image carrier is movable;

wherein said flexible member is positioned such that said flat surface contacts the surface of said image carrier with said flexible member being deformed,

wherein said flexible member comprises a sheet member formed of polyethylene terephthalate, and

wherein said sheet member is positioned such that said flat surface contacts the surface of said image carrier with a pressure of 0.1 N or above, but 0.8 N or below.

4. (Previously Presented) The apparatus as claimed in claim 3, wherein said flat surface has a surface roughness Rz of 20 or above, but 40 or below.

5. (Original) The apparatus as claimed in claim 3, wherein said sheet member has a thickness of 0.1 mm or above, but 0.2 mm or below.

6. (Original) The apparatus as claimed in claim 3, wherein said sheet member is positioned such that an angle between said flat surface of said sheet member in the absence of said image carrier and a line tangential to the surface of said image carrier and crossing said flat surface when said image carrier is present is between 20° and 100°.

7. (Original) The apparatus as claimed in claim 1, wherein the toner has a mean circularity of 0.93 or above.

8. (Original) The apparatus as claimed in claim 1, further comprising a process cartridge removably mounted to a body of said apparatus and comprising at least said image carrier and said flexible member.

9. (Currently Amended) In a process cartridge removably mounted to a body of an image forming apparatus comprising:

an image carrier;

developing means for developing a latent image formed on said image carrier by depositing a toner to thereby form a corresponding toner image;

image transferring means for forming an electric field between said image carrier and a subject body of image transfer to thereby transfer the toner image from said image carrier to said subject body;

cleaning means using a bladeless system for removing a residual toner left on said image carrier after image transfer without scraping off said residual toner with a blade member; and

a flexible member disposed upstream of the cleaning means and affixed at one edge portion, the flexible member and having a flat surface formed with including a grooved portion having a plurality of grooves, the flat surface of the flexible member including the grooved portion extending from the affixed one edge portion to a free at the other edge portion, wherein said plurality of grooves each extend over an image forming range of a surface of said image carrier perpendicularly to a direction in which said surface of said image carrier is movable; and said flexible member is positioned such that at least said grooved portion of the flat surface contacts the surface of said image carrier with said flexible member being deformed;

wherein at last least said image carrier and said flexible member are constructed integrally with each other.

Claims 10-16 (Canceled).

17. (Previously Presented) An image forming apparatus comprising:
an image carrier configured to move in a first direction;
a developing device configured to form a toner image on a surface of the image carrier;

a cleaning device configured to remove a residual toner from the image carrier after transfer of the toner image from the image carrier; and

a flexible member comprising a grooved surface including a plurality of grooves extending perpendicular to the first direction, the grooved surface configured to contact the surface of the image carrier with a pressure from 0.1N to 0.8 N.

18. (Previously Presented) The apparatus as claimed in claim 17, wherein the grooved surface has a surface roughness Rz from 20 to 40.

19. (Previously Presented) The apparatus as claimed in claim 17, wherein the flexible member has a thickness from 0.1 mm to 0.2 mm.

20. (Previously Presented) The apparatus as claimed in claim 17, wherein the flexible member is positioned such that an angle between the grooved surface in the absence of the image carrier and a line tangential to the surface of the image carrier and crossing the grooved surface when the image carrier is present is from 20° to 100°.

21. (Currently Amended) An image forming apparatus comprising:
an image carrier configured to move in a first direction;
a developing device configured to form a toner image on a surface of the image carrier;
a cleaning device configured to remove a residual toner from the image carrier after transfer of the toner image from the image carrier; and
a flexible member disposed upstream of the cleaning device and affixed at one edge portion, the flexible member having a flat surface comprising a grooved surface portion

including a plurality of grooves, the flat surface of the flexible member including the grooved portion extending from the affixed one edge portion to a free edge portion, said plurality of grooves extending perpendicular to the first direction.

22. (Previously Presented) The apparatus as claimed in claim 21, wherein the cleaning device comprises a bladeless cleaning device.

23. (Previously Presented) The apparatus as claimed in claim 21, wherein the cleaning device comprises a brush.

24. (Previously Presented) The apparatus as claimed in claim 21, wherein the cleaning device comprises a brush roller.

25. (Previously Presented) The apparatus as claimed in claim 21, wherein the grooves extend a length at least equal to a corresponding length of the surface of the image carrier.

26. (Currently Amended) A process cartridge configured to be removably mounted to a body of an image forming apparatus, comprising:

an image carrier configured to move in a first direction in the body;

a developing device configured to form a toner image on a surface of the image carrier;

a cleaning device configured to remove a residual toner from the image carrier after transfer of the toner image from the image carrier; and

a flexible member disposed upstream of the cleaning device and affixed at one edge portion, the flexible member having a flat surface comprising a grooved surface portion

including a plurality of grooves, the flat surface of the flexible member including the grooved portion extending from the affixed one edge portion to a free edge portion, said plurality of grooves extending perpendicular to the first direction.

27. (Previously Presented) The cartridge as claimed in claim 26, wherein the cleaning device comprises a bladeless cleaning device.

28. (Previously Presented) The cartridge as claimed in claim 26, wherein the cleaning device comprises a brush.

29. (Previously Presented) The cartridge as claimed in claim 26, wherein the cleaning device comprises a brush roller.

30. (Previously Presented) The cartridge as claimed in claim 26, wherein the grooves extend a length at least equal to a corresponding length of the surface of the image carrier.